



CITY COUNCIL

AGENDA REQUEST

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| AGENDA OF: | 04-21-15 | AGENDA REQUEST NO: | V-B |
| INITIATED BY: | JAMES TURNER, P.E., TRAFFIC ENGINEERING & CONTROLS MANAGER | RESPONSIBLE DEPARTMENT: | PUBLIC WORKS |
| PRESENTED BY: | JAMES TURNER, P.E., TRAFFIC ENGINEERING & CONTROLS MANAGER | DIRECTOR: | ROBERT VALENZUELA, P.E. <i>RV</i> DIRECTOR OF PUBLIC WORKS |
| | | ADDITIONAL DIRECTOR (S): | CHRISTOPHER STEUBING, PE CITY ENGINEER <i>CLS</i> |
| SUBJECT / PROCEEDING: | TR1503 – TRAFFIC SIGNAL MANAGEMENT /ITS-TRAFFIC SIGNAL DETECTION UPGRADE PROJECT AUTHORIZE PURCHASE | | |
| EXHIBITS: | LOCATION MAP | | |
| CLEARANCES | | APPROVAL | |
| LEGAL: | N/A | ASSISTANT CITY MANAGER: | MIKE GOODRUM <i>MWG</i> |
| PURCHASING: | TODD REED, CPPO, CPPB PURCHASING MANAGER <i>TR</i> | ASSISTANT CITY MANAGER: | N/A |
| BUDGET: | JENNIFER BROWN <i>JB</i> DIRECTOR OF FINANCE | CITY MANAGER: | ALLEN BOGARD <i>Allen Bogard</i> |
| BUDGET | | | |
| EXPENDITURE REQUIRED: \$ | | 500,000 | |
| CURRENT BUDGET: \$ | | 724,635 | |
| ADDITIONAL FUNDING: \$ | | N/A | |
| RECOMMENDED ACTION | | | |
| Authorize a purchase of Trafficware Group, Inc's Valence Pod System in a maximum amount of \$500,000 as part of the TR1503 – Traffic Signal Management/ITS - Traffic Signal Detection Upgrade Project. | | | |

EXECUTIVE SUMMARY

The City's Intelligent Transportation System (ITS) is one of the best in our region. ITS employs communication technologies, electronics, and automated traffic systems to enhance mobility by increasing the efficiency and safety of traffic infrastructure. The City's wireless and fiber network allows every traffic signal to send and receive data to the Traffic Management Center (TMC). Today, the TMC receives real-time video for observation, real-time data from every traffic signal, has the ability to modify traffic signals remotely, and manages the ITS website which displays real-time traveler information. In the near future, the TMC will also have ability to get real-time information from our school zone-flashers.

In a continuing effort to keep ahead of mobility needs, the City's ITS Operations Plan is updated every three years to identify needs that will enhance and improve our current systems. One of the major recommendations, from the updated plan completed in November 2014, was the upgrade of traffic signal detection to provide more accurate detection and data capturing capabilities (traffic volumes, speeds, delay). Currently, inductive loops and video detection are the primary forms of detection throughout the City. Video detection is one of the easiest detection systems to install and maintain but it lacks in reliability due to sun, shadows, or fog and lacks accurate data collection performance. Inductive (in-pavement) loops have a good reliability record, as long as the pavement stays in good condition, but require a lot of cable and conduit for implementing data collection which translates to higher cost and maintenance.

Over the last two years, the City's Public Works Department tested several different types of detection systems which included radar, infrared, new video detection systems, and wireless magnetometers in an effort to build the foundation for a smarter and more reliable data driven Intelligent Transportation System. The goal would be to improve on current short falls and add data collected capabilities that will provide real time performance measures of City arterials, gather data that can be used for analysis, design, and growth trends, and install the infrastructure needed for an adaptive signal system. Wireless magnetometers showed to be the best solution due to the accuracy, data capturing capabilities, and flexibility of installation. These sensors, approximately the size of a hockey puck, are embedded into the pavement and send an active signal to the traffic cabinet when a vehicle drives over them.

The City evaluated the only two known brands in the market and found Trafficware Group, Inc.'s Valence Pod System to be the only product that could meet the City's specifications. In short, the Valence Pod system has a longer range of detection (250' vs 180'), an omni directional antenna (360 degree vs 120 degree), a base station that allows for easy detector programming versus multiple detector cards(less equipment), and one type of magnetometer versus a specific type for different scenarios. Trafficware Group, Inc. was also recently awarded Patent US 8855902 B2 for technology and method improvements to wireless magnetometer detection including innovations in antennae, power management, and enclosure design which result in the superior performance of the system. The resultant increased range and more robust communication with Trafficware's approach allows for a simplified system that does not need or use repeaters, and improves performance through moisture and around obstacles. These unique features, not found in any other product, showed the necessary quality and functionality that the City requires.

The proposed detection upgrades would occur along US 90A and SH 6, the City's busiest roadways. Eighteen key intersections with approximately 675 sensors to gather real time data and provide accurate detection all year round.

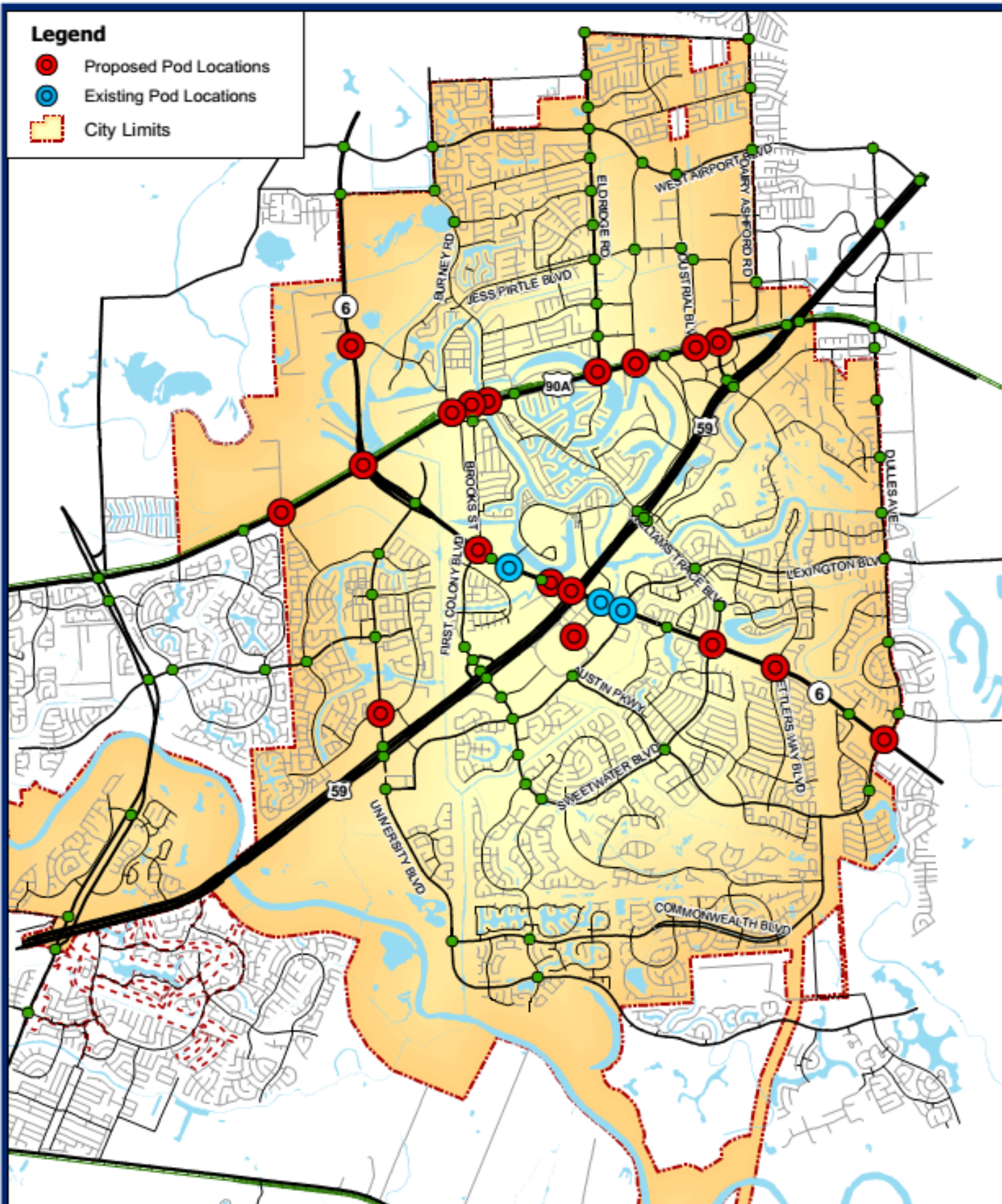
Funding for this purchase is available through the CIP TR1503 - Traffic Signal Management/ITS budget.

The Public Works and Engineering Department recommends that the City Council approve the sole source purchase of Trafficware Group, Inc's Valence Pod System (only product that meets City specifications) in a maximum amount of \$500,000 as part of the TR1503 – Traffic Signal Management/ITS - Traffic Signal Detection Upgrade Project.

EXHIBITS

Legend

- Proposed Pod Locations
- Existing Pod Locations
- City Limits



MAGNETOMETER DETECTION POD LOCATIONS





Trafficware Group, Inc.
522 Gillingham Lane
Sugar Land, TX 77478
(281) 240-7233 Phone
(281) 240-7238 Fax
customercare@trafficware.com
www.trafficware.com

Quote #: 1504-TX102BI-A SH6 and US90A Valence PODs
Regarding: Valence POD Systems SH6 and US90A
Contact name: James Turner
Contact Company: City of Sugar Land
Contact fax/email: JTURNER@sugarlandtx.gov

Date of quote: April 9, 2015

Please read notes carefully:

This quotation is based upon quantities referenced in "By Intersection" spreadsheet. Quotation is for equipment only although does include Intersection POD placement design assistance by Trafficware.

Trafficware is pleased to offer a substantial, single order discount if order is placed by April 30, 2015

| Quantity | DESCRIPTION | \$ / EACH | \$ / TOTAL |
|----------|---|------------|----------------------|
| 35 | Valence POD Access Point Kit Includes the following: Access Point with 3 Radio's Access Point Connector Kit Omni Antenna, 900 MHz RG142 Cable, 6 Ft., RPTNC to Type N Male Connector Antenna Mounting Bracket, Omni Lightning Protector, 900 MHz Antenna Naztec Part #50284-2103 | \$2,750.00 | \$96,250.00 |
| 18 | Valence POD Base Station Kit, NEMA Cabinet Includes the following: Base Station - Standard SDLC Cable Power Panel, Valence System Naztec Part # 50283-2100 | \$3,250.00 | \$58,500.00 |
| 21 | Additional OMNI Antenna kits Omni Antenna, 900 MHz RG142 Cable, 6 Ft., RPTNC to Type N Male Connector Antenna Mounting Bracket, Omni Lightning Protector, 900 MHz Antenna | \$420.00 | \$8,820.00 |
| 675 | Valence POD Sensor - includes clamshell Naztec Part # 50285-2000 | \$525.00 | \$354,375.00 |
| 1012.5 | Valence POD Sealant - 2 Part Epoxy Naztec Part # 9000-2000 | \$35.00 | \$35,437.50 |
| | Discount - If order received by 4/30/2015 | | (\$53,450.00) |
| | TOTAL | | \$499,932.50 |

Notes: • Please make all purchase orders out to Trafficware Group, Inc.
• Item numbers for PSI products (A Trafficware Company) begin with "P" to help our PSI customers distinguish PSI parts.
These parts can be ordered with or without using the "P" prefix.

Terms: • QUOTE VALID FOR 30 DAYS.
• ALL QUOTES SUBJECT TO CREDIT APPROVAL.
• DELIVERY 60 - 90 DAYS AFTER RECEIPT OF ORDER, FOR STANDARD ITEMS.
• CREDIT APPROVAL DELAYS MAY ADVERSLEY AFFECT STANDARD DELIVERY TIMES.
• TERMS NET 30 DAYS.
• PRICES ARE IN US FUNDS.
• FREIGHT - FOB ORIGIN / FREIGHT PREPAID AND ADD
• ALL ITEMS SUBJECT TO APPLICABLE TAXES. IF TAX EXEMPTION APPLIES PLEASE FURNISH NUMBER OR RESALE CERTIFICATE WITH PURCHASE ORDER.
• THIS QUOTATION IS FOR EQUIPMENT ONLY. QUOTE DOES NOT INCLUDE TRAINING OR TURN-ON ASSISTANCE, UNLESS STATED

- CANCELLED ORDERS ON STANDARD ITEMS ARE SUBJECT TO A 25% RESTOCKING FEE. RESTOCKING FEE FOR CANCELLED ORDERS ON SPECIALTY ITEMS MAY BE HIGHER.
- PLEASE SEND ALL P.O'S TO CUSTOMERCARE@TRAFFICWARE.COM

We appreciate your business. Kindest regards,



Compliance:

Customer represents and warrants that, in connection with the marketing, sales and distribution of Trafficware Products, customer has complied and will comply with all applicable laws, including but not limited to: (1) anti-corruption laws (such as the U.S. Foreign Corrupt Practices Act) that prohibit directly or indirectly giving, offering, promising, requesting or accepting anything of value for the corrupt purpose of gaining a commercial benefit or advantage; and (2) U.S. export control and sanctions laws that regulate the disposition of U.S. -origin goods, software and technology

Statement of Warranty

Trafficware Group, Inc. hereinafter referred to as "the company," warrants that all products manufactured by the company will be shipped from its place of manufacture in merchantable quality, and that it will, at the company's option, either replace or repair such products found to be defective in materials or workmanship within one (1) year from the date of shipment, unless expressly quoted otherwise. Damages or defects incurred after the product has left the company, or while in transit to the customer, are not encompassed by the warranty. All company warranties are expressly conditional based on proper installation, operation, and maintenance by the purchaser.

This warranty does not apply with respect to damage to any controller due to ordinary wear and tear, misuse, or abuse - intentional or otherwise - acts of God, forces of nature, or to products that have been repaired or modified by persons not authorized by the company such that, in the company's sole judgment, the design or operational reliability of such product has been compromised. Furthermore, this warranty does not extend to incidental or consequential damages of any kind, whether the product is used properly or not.

All requests for repair shall be directed first to the distributor (if applicable) and then to the company. If the equipment is to be returned for service and/or repairs, the purchaser must obtain a Return Authorization number from the company.

When returning equipment, the purchaser must indicate the model number, serial number, Return Authorization number, and a statement indicating the particular problem with the product. All products must be shipped FOB 522 Gillingham Lane, Sugar Land, TX 77478. In the event of shipping damage, the customer will be responsible for filing a claim with the freight carrier.

The company's sole liability and responsibility, and the purchaser's exclusive remedy shall be the repair or replacement, at the company's option, of the part or parts not conforming to the warranty. This warranty replaces and supersedes all other warranties, expressed or implied, including the implied warranty of merchantability or fitness for a particular purpose.